

IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A Non-human-transgenic mouse comprising disruption of the gene or genes encoding animal having altered-melusin, wherein said mouse, after being subjected to a hypertensive condition, develops at least a phenotype selected from the group consisting of impaired heart hypertrophy, heart dilation, and heart failure expression.

Claims 2-7 (canceled)

8. (currently amended) The Non-human-transgenic mouse animal-according to claim [[7]] 1, characterized in that said hypertensive condition is induced determined-by surgical operation.

9. (currently amended) The Non-human-transgenic mouse animal-according to claim 8, characterized in that said surgical operation consists of of [[in]] surgical constriction of the transverse aorta.

10. (currently amended) The Non-human-transgenic mouse animal-according to claim [[7]] 1, characterized in that said hypertensive condition is induced determined-by pharmacological treatment,preferably with hypertensive drugs.

11. (currently amended) The Non-human-transgenic mouse animal-according to claim [[7]] 1, characterized in that said hypertensive condition is induced determined-by high sodium diet.

12. (currently amended) The Non-human-transgenic mouse animal-according to claim [[3]] 1, wherein said mouse animal-develops at least impaired heart hypertrophy.

13. (currently amended) ~~The Non-human-transgenic mouse animal~~ according to claim [[3]] 1, wherein said ~~mouse animal~~ develops at least heart dilation.

14. (currently amended) ~~The Non-human-transgenic mouse animal~~ according to claim [[3]] 1, wherein said ~~mouse animal~~ develops at least heart failure.

15. (currently amended) ~~The Non-human-transgenic mouse animal~~ according to claim [[1]] 10, wherein said pharmacological treatment is administration of hypertensive drugs ~~animal is a mammal~~.

Claim 16 (canceled)

17. (currently amended) ~~The Non-human-transgenic mouse animal~~ according to claim 16, wherein said mouse belongs to the 129SV, C57Bl or 129SVxC57Bl strain.

18. (currently amended) ~~A method Method~~ of screening compounds for pharmacological activity, ~~said method comprising the steps of:~~

- i) administering compounds to ~~the a non-human-transgenic mouse animal~~ according to claim 1 and
- ii) selecting a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

19. (currently amended) ~~A method Method~~ of studying a heart pathology ~~using a non-human-transgenic animal according to claim 1~~, ~~said method comprising the steps of:~~

- i) exposing ~~the a non-human-transgenic mouse animal~~ according to claim 1 to hypertensive conditions and
- ii) studying development of a heart pathology in said ~~mouse animal~~, wherein said heart pathology is selected from the group consisting of heart failure, congestive heart failure, dilated cardiomyopathy, hypertensive cardiomyopathy, hypertrophic cardiomyopathy, and heart infarct.

20. (currently amended) Cells obtained derivable from the non-human-transgenic mouse animal according to claim 1 ~~and having altered melusin expression.~~

Claim 21-22 (canceled)

23. (currently amended) A method ~~Method~~ of screening compounds for pharmacological activity, said method ~~comprising the steps of:~~

- i) screening compounds against cells according to claim 20 and
- ii) selecting a compound a compound that is pharmacologically active in the prevention and/or treatment of heart failure.

24. (currently amended) A method of producing a transgenic mouse comprising disruption of the gene encoding melusin, wherein said disruption inhibits expression of wild type melusin. ~~Method for the preparation of a non-human transgenic animal according to claim 1~~ said method ~~comprising the steps of:~~

- (a) disrupting by homologous recombination the gene encoding melusin in a mouse embryonic stem (ES) cell.
- (b) injecting said ES cell into a mouse blastocyst.
- (c) implanting said blastocyst into the uterus of a foster mother mouse to generate a chimeric embryo.
- (d) obtaining a chimeric mouse which has germ line cells comprising a disrupted gene encoding melusin from said chimeric embryo.
- (e) breeding said chimeric mouse with a different mouse strain, and
- (f) selecting a transgenic mouse comprising disruption of the gene encoding melusin.
 - i) preparing a non-human transgenic parent animal carrying an inactivated melusin allele;
 - ii) breeding the parent transgenic animal with a non transgenic animal; and
 - iii) selecting transgenic animals heterozygote for the melusin gene mutation.

25. (currently amended) ~~The method~~ Method according to claim 24, further comprising the step of iv) breeding said transgenic mice and selecting a homozygous mouse comprising disrupted genes encoding melusin ~~in the heterozygote transgenic animals to select homozygote transgenic animals for the melusin gene mutation.~~

Claims 26-42 (canceled)